



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/763,470

01/22/2004

Valery M. Dubin

110348-134848

6669

25943

7590

10/30/2008

SCHWABE, WILLIAMSON & WYATT, P.C.

PACWEST CENTER, SUITE 1900

1211 SW FIFTH AVENUE

PORTLAND, OR 97204

EXAMINER

LAMB, BRENDA A

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

10/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/763,470

Applicant(s)

DUBIN ET AL.

Examiner

Brenda A. Lamb

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-8 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-8 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5-7 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hetherington.

Hetherington teaches a system which is comprised of the following elements: a chamber/tank 29 to hold a fluid; a plurality of tanks A,B,C,D to separately hold a fluid; and a piping system having a plurality of segments, including a plurality of in-line heaters 15,22 for a subset of the segments, to separately route, in-line heat, and after heating mix to form the mixture, substantially just prior to application. Hetherington fails to teach his chamber/tank applies a solution/fluid onto one or more substrate. However, it would have been

Art Unit: 1792

obvious to modify the Hetherington chamber/tank such that its lid/cover is removable so as to treat objects placed therein for the obvious advantage of facilitating maintenance/cleaning of the tank. Hetherington's chamber/tank and plurality of tanks is capable of holding a fluid and substrates within the scope since the walls of the chamber and plurality of tanks are capable of holding and storing a variety of fluids and substrates including those within the scope of the claim. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). With respect to claims 6-7 and 41, walls of the tanks A,B,C,D of Hetherington of capable of storing a variety of fluids therein including those within the scope of the claims. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Claims 5-8 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebberts.

Ebberts teaches a system which is comprised of the following elements: a chamber which is obviously defined by the inter walls of a spray nozzle, the spray nozzle applies a solution onto substrates; a plurality of tanks 20a,20b to separately hold a fluid; and a piping system having a plurality of segments, including a plurality of in-line heaters 56a,56b for a subset of the segments, to separately route, in-line heat, and after heating mix to form the mixture, substantially just prior to application. Ebberts fails to teach applicator is a chamber. The walls of the chamber/tank and plurality of tanks in the Ebberts system is capable of holding/storing a variety of fluids including those within the scope of the claim. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Further, the space within the chamber/tank of the Ebberts system as modified is capable of holding a variety of objects including those within the scope of the claim. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525,

Art Unit: 1792

1528 (Fed. Cir. 1990). With respect to claims 6-7 and 41, stainless steel walls of the tanks 20a,20b of Ebberts of capable of storing a variety of fluids therein including those within the scope of the claims. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). With respect to claim 8, the Ebberts in-line heaters 56a,56b is capable of heating the components of the mixture to a temperature within the scope of the claim (column 8 lines 6-11 and column 7 lines 33-50).

Claims 5-8 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al 6,638,564 in view of Li et al 2003/0235983.

Segawa et al teaches a system which is comprised of the following elements: a chamber as obviously defined by the inter walls of the nozzle 16 which applies a plating solution to plate a wafer by spraying thereon; a plurality of tanks to separately hold electroless plating component; and a piping system having a plurality of segments and piping system provides the following steps to occur substantially before application of the plating solution to the wafer: separate routing of the components of the plating solution, in-line heating and mixing. Segawa et al walls of the plurality of tanks is capable of holding coating material within the scope of the claim. Note it has been held that a recitation with

Art Unit: 1792

respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Segawa et al fails to teach the plurality of segments includes a plurality of in-line heaters. However, Li et al teaches a plating system for plating wafers in which an in-line heater in line 107 heats the plating solution substantially just prior to mixing in reservoir 100 and application to the substrates in chamber 120 to obviously increase the production rate of the system (see Figure 3). Li et al teaches the use of in-line heaters is an alternative to heating the reservoir itself which supplies the plating solution to mixing reservoir.

Therefore, it would have been obvious to modify by substituting its heating means in the Segawa et al apparatus, (in tank heating system (elements 52a,52b,53a,53b)) with an in-line heating means for heating the coating material to desired temperature such as taught by Li et al since Li et al teaches the use of in-line heater in line 107 as an alternative to in-tank heating to heat the plating solution substantially just prior to mixing in reservoir 100 and application to the substrates to obviously increase production rate or plating rate of the system. With respect to claims 6-7 and 41, Segawa et al plurality of tanks is capable of holding coating material within the scope of the claim since it teaches every claimed element of the apparatus. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed

Art Unit: 1792

does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987).

"[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). With respect to claim 8, Li et al teaches his in-line heaters heat the plating solution within about 5 to 10 degrees centigrade from the deposition temperature which can range for example between 60 to 90 degrees centigrade. Segawa et al as modified with Li et al in-line heaters are capable of heating coating within the scope of the claim as discussed above.

Claims 5-8 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al 6,638,564 in view of Henry, Jr 3,727,680, Talmey et al 2,941,902, Morcos 6,500,482 and Shacham-Diamand et al 6,065,424.

Segawa et al teaches a system which is comprised of the following elements: a chamber as obviously defined by the inter walls of the nozzle 16 which applies a plating solution to plate a wafer by spraying thereon; a plurality of tanks to separately hold electroless plating component; and a piping system having a plurality of segments and piping system provides the following steps to occur substantially before application of the plating solution to the wafer: separate routing of the components of the plating solution, in-line heating and mixing. Segawa et al walls of the plurality of tanks is capable of holding coating material within the scope of the claim. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed

Art Unit: 1792

does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Segawa et al fails to teach the plurality of segments includes a plurality of in-line heaters. However, it would have been obvious to modify by substituting its heating means in the Segawa et al apparatus, (in tank heating system (elements 52a,52b,53a,53b)) with an in-line heating means for heating the coating material to desired temperature since the use of in-line heaters to heat the plating solution prior to its supply to the plating tank is known as taught by Henry, Jr, Talmey et al, Morcos and Shacham-Diamand et al for the obvious advantage of greater control of the plating process by controlling the temperature of the fluid supplied to the plating chamber. With respect to claims 6-7 and 41, Segawa et al plurality of tanks is capable of holding coating material within the scope of the claim since it teaches every claimed element of the apparatus. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). With respect to claims 6-7, Segawa et al plurality of tanks is capable of storing coating material within the scope of the claim since it teaches every claimed

Art Unit: 1792

element of the apparatus. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987).

"[A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). With respect to claim 8, Segawa et al as modified with in-line heaters are capable of heating coating within the scope of the claim (see Segawa et al at column 4 lines 6-7).

Applicant's arguments filed 7/9/2008 have been fully considered but they are not persuasive.

Applicant's declaration under 37 CFR 1.131 is proper and noted in the application but rejections of claims 5-8 and 41 over the art of record is maintained for the reasons noted above.

Applicant's argument that Segawa et al fails to teach in-line heating and mixing just substantially prior to application is found to be non-persuasive. Applicant's argument implies that Segawa et al must teach a method step in which the substantially prior to application of the plating solution to the wafer the solution components were mixed and heated whereas the issue with respect to the claimed apparatus is whether the prior art apparatus, Segawa et al as modified, has the capability to provide plating solution to the wafer substantially after the solution components were mixed and heated. Therefore, the examiner maintains that it would have been obvious to modify by substituting its heating

Art Unit: 1792

means in the Segawa et al apparatus, (in tank heating system (elements 52a,52b,53a,53b)) with an in-line heating means for heating the coating material to desired temperature since the use of in-line heaters to heat the plating solution prior to its supply to the plating tank is known as taught by Henry, Jr, Talmey et al, Morcos and Shacham-Diamand et al for the obvious advantage of greater control of the plating process by controlling the temperature of the fluid supplied to the plating chamber. Note the heated plating solution components in the Segawa et al system are mixed in a merging portion 55 immediately before flowing to the Segawa et al chamber or spray nozzle and therefore plating solution are capable of being applied substantially after the components mixed and heated due to the lack of a structure to prevent immediate flow of the heated and mixed components from merging portion to the chamber or spray nozzle.

Note applicant although it appears that applicant desires to limit his invention to an electroless plating system, applicant's as currently amended are directed to the end use of the apparatus. If applicant desires to limit his claims to electroless plating solution then applicant needs to positively claim the system in combination with the plating material or plating material component itself.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda A. Lamb whose telephone number is (571) 272-1231. The examiner can normally be reached on Monday-Tuesday and Thursday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton, can be reached on

Art Unit: 1792

(571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brenda A Lamb
Primary Examiner
Art Unit 1792

/Brenda A Lamb/

Primary Examiner, Art Unit 1792